

Locusts

BB 11

(G. S.)

Col. Sec.

4308

From Whom ... C.I.G.S. ....  
Place ... S  
Date ... 28/7/14

1944

Locust destruction in the Malabar Border.

S. I. D. M. B. 1944

Former Papers.

MINUTES.

Final Paper.

Col. Sec

1. Enclosed file D of A, provides of the staff necessary for locust destruction in the Malabar border, please refer to the D of G.

2. I am proposing that the council to take steps to apply to D of G for the employment of a European to supervise this work. The D of G can advise as to the selection of this office and he can also say what staff of trained Mandors and coolies he would advise as to employ.

3. I am asking the Ch. Secretary what trained Mandors can be spared.

Int. R. J. W. 25/7/14

D of G

Referred

The papers containing your reports upon Locust in Mecca & with H.E.

Int. W. G. N. 29/7/14

C.S.

If I may say so, where Malacca is to be spent twenty thousand dollars, Negri Sembilan should be spending upwards of one hundred thousand, and Johore something which I cannot well estimate for want of knowledge of the country. Otherwise the scheme of the D of A is a case of load-  
ing the work chiefly onto Malacca. Is Negri Sembilan going to spend \$100,000 on locust catching in 1915? I expect not.

The work in Malacca ought not to cost \$20,000.

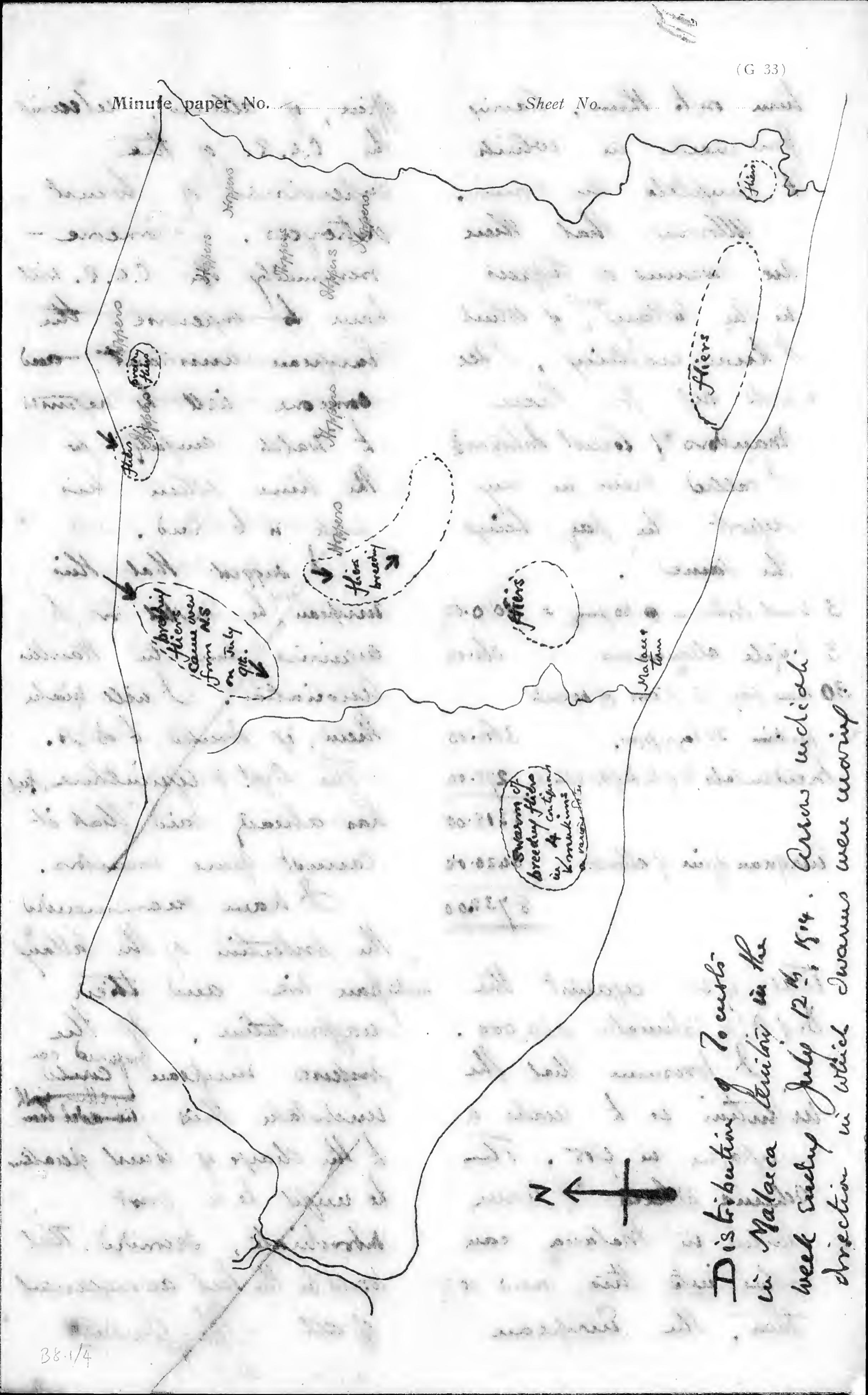
I attach a map showing the distribution of locusts in Malacca in the week ending July 12th. The Col. In. R. & S. D. O. S. have supplemented the information which I collected myself, and it is fairly accurate.

Please note that Hoppers are known to me in nine places (some months half grown). These hoppers give us 4 weeks in all before they fly. A week ought to suffice for destruction at each place. Therefore two Mandors can be provided with work on them. Note next that there are 8 swarms, breeding mostly, their progeny come up for destruction in turn about a fortnight or perhaps a little more later, and the two mandors

B8.1/3

Minute paper No.

Sheet No.



Distribution of *T. cincta*  
in Malacca during the  
week ending July 12-18, 1914. Areas under  
direction in which swarms were moving

turn on to them, having  
four weeks in which  
to complete the round.

Allowing that there  
are swarms of tappers  
in the tallyary <sup>wards</sup>, of which  
I know nothing, I see  
work out for three  
mandors (local destroyers)  
I called them in my  
report, the pay being  
the same).

3 local destroyers @ 30 pm =	1080.00
3 horse allowances	360.00
30 men pay per diem @ 40 cents per diem 25 days p.m.	3600.00
Incidentals $\frac{3}{8}$ of the D.f.A.s estimate	278.00
	<u>5318.00</u>
European office if allowed	<u>3420.00</u>
	<u><u>8738.00</u></u>

Total \$8,738 against the  
D.f.A.'s estimate \$20,000.

I presume that the  
situation is to make a  
campaign in 95'. The  
Scheme which I have  
started in Malacca can  
serve ~~as~~ into this now or  
then, the European

office, if allowed, releasing  
the C.L.R. of the  
Supervision of local  
destroyers. Someone -  
presumably the C.L.R. will  
have ~~to~~ supervise the  
~~European assistant~~, and  
someone will be required  
to watch carefully for  
the time when his  
work is to end.

~~I suggest that this  
European <sup>may</sup> be script for  
enquiries from the Malacca  
Association. I will make  
them, if desired to do so.~~

~~The Dept. of Agriculture has  
already said that it  
cannot spare mandors.~~

I have recommended  
the protection of the tallyary  
wards from fire and their  
supervision. If the  
~~proper~~ European <sup>proper</sup> could  
undertake this ~~undertaking~~  
to the charge of local operation  
he might be a first  
subordinate, seconded. That  
would be the best arrangement  
of all ~~they believe~~

Minute paper No. ....

Sheet No. ....

together with local  
situation, he will fully  
earn his pay, and in  
that case a fixed sum  
second would be the  
best type for the work.

Otherwise it is a  
question of finding a  
young planter  
assistant out of work  
(and of course interested  
in keeping the ball  
rolling). I will  
look for any hired  
but it seems to me  
costly to employ one  
for 3 months.

The Departmental of  
Agric. Dept. has  
already said that it  
cannot spare meader.

DMS

20.7.14

I.E. Submitted.

The work should begin at once  
and an European assistant should  
be in local charge. It can be  
assumed that the Forest Dept. will  
not be able to spare a  
man, and the D. of G. should  
engage a young planter forth-  
with.

A staff might be made up  
suggested by the D. of G. with  
5 assistants and 30 soldiers. The  
full strength of 8 assistants  
and 30 soldiers might be ap-  
proved later if so recommended  
by the D. of G.

All expenditure to be debited  
for the present to a separate  
account under the heading of  
Forest destruction.

The D. of G. to report at the end  
of the current month upon the  
work done and the expenditure  
incurred. W.G.M. 8.8714

PS. Does I.E. desire any  
further action to be taken  
upon the D. of G.'s detailed  
report (6) in 107/14? W.G.M.

D. of G.

The above has been approved  
by H.E. Please arrange with

~~bring their work to bear on  
them, having four weeks in which  
to complete the round.~~

~~Allotment may perhaps be made  
for undetected swarms, hoppers of  
which I know nothing~~

R.M. (to allow him to go round) for engaging the  
European Assistant and performing work without delay.

W.G.M. 10, 8, 14

C.S.

I have engaged Mr. Cowley Brown, and am sending him forward to Malacca to report to the Resident on the morning of the 15th, and to commence work [as soon as he arrives]

I have had Mr. Cowley Brown medically examined [and] the certificate required under G.O. 6.

Mr. Cowley Brown has filled in the rest of the form (size)  
but I believe that the nature of the service from which he  
will be paid a suspense account makes this unnecessary.

I may put it on record here that Mr. Cowley Brown would like to enter Government Service permanently.

Though it is not precisely stated, the papers make it certain that the pay intended is \$200 per month with \$50 commuted travelling allowance. As it will be most convenient to pay him in Malacca will you please authorise the Resident to spend under the heading Locust destruction up to \$2500 (two thousand and five hundred dollars)

Special Assistant 4½ months @ 200	900
-----------------------------------	-----

Commuted allowance	155
--------------------	-----

Cycle allowance	155
-----------------	-----

Purchase of cycle	550
-------------------	-----

Three rangers	405
---------------	-----

their bicycle allowances	155
--------------------------	-----

50 coolies ..... 168.75  
incidentals new traps etc 400.00

to carry on to the end of the year.

I propose to visit Malacca at the earliest possible date, but cannot leave at once as my only clerk is in hospital.

The D. of A. put down \$300 for a motor cycle. I find that the P.W.D. in Singapore has been trying \$550 and have put down the larger sum but taken no action as a machine may be available in Malacca.

J.H.B. 14.8.14

C.S.

This paper was sent direct to me by the Director of Ordeas and I kept it anticipating he would be here yesterday or today but he is not.

Mr. Cowley Brown has arrived so I understand that he may buy a Motor Cycle at a price not exceeding \$550? I think a Motor Cycle is absolutely necessary.

I ask for authority by nine on by return post?

Int. W.G.M. 18/8/14

Y.E.

It is hardly fair, I think, to ask a man in a temporary appointment to buy a Motor Cycle. It would be better for the Govt. to buy it, and to put it at his disposal.

Int. W.G.M. 19/8/14

Col. Sec

Yes. The Motor Cycle can be provided.

2. A vote of £2,500 must be asked for from the Finance Committee.

3. Mr. Cowley Brown sent in an application from the P.M.S. for permanent employment under the Col. office. Int. R.J.R. 25/8/14

R.M.

Please note.

Intd. W.G.M. 20/8/14

C.S.

Noted

Intd. W.G.M. 21/8/14

S of S

Please note

Intd. W.G.M. 27/8/14

C.S.

Your instructions dated 8/8/14 are to the effect that I should report at the end of the <sup>month</sup> I do so. Mr. Cowley Brown commenced work on the 15th August. I proceeded to Malacca on the 26th arriving there on the 28th. and in conjunction with the Resident and Mr. Cowley Brown obtained a Motor Cycle for £525.

I took Mr. Cowley Brown to various places in Malacca where locust swarms exist, teaching him what I knew about locusts, in order to put him into the way of recognizing the sexes, ascertaining how near flying the hoppers are by their appearance, and of knowing how near egg laying the females may be by the condition of the ovary. I also taught him to recognize likely breeding grounds.

Mr. Cowley Brown had previously had the loan of many books from me which he has read and apparently digested.

It now remains for him to gather experience. I have asked him to keep most careful records in his diary of the finding of locusts and the nature of the circumstance under which they may be existing. About the time of Mr. Cowley Brown's appointment I had asked the Resident to be so good as to see about obtaining more traps, built in Malacca on the new models then newly received from Seremban, but he found it impossible to get them made in Malacca and was forced again to send to Seremban for them. He tells me that part of the traps have been received and that he has asked for the expedition

sending of the rest. When these come Mr. Cowley Brown will have four new model traps. He engaged a second locust destroyer last week, but the man is not very well thought of by either of us. He will be given a fair trial, and should he fail to give satisfaction another man will be sought as the Negri Sembilan has been employing 24 Manders and is dismissing 17, a new man may be found easily.

The audit requiring the Residents signature on bills, it is quite unnecessary that I should see them. The expenses to date are

Mr. Cowley Brown's <sup>now</sup>  $\frac{1}{2}$  month ..... \$100-00

Motor Cycle ..... 525-00

Second Jander from 25th ..... 7-94

Traps about ..... 150-00

Mrs. Cowley Brown's Transport ..... 50-00

Coolies about ..... 50-00

Transport of traps say ..... 10-00

\$872-94

which charges are additional to those incurred against the old grant of \$500 which is <sup>now</sup> ~~now~~ used up.

Secondly as regards locusts in Malacca. Please see the map on the back of sheet 2. The locusts which were hoppers at the time when the map was made, are fliers now, and are no longer where they were. The fliers of the time when the map was made have left descendants, now finding themselves turning into fliers. On the whole the infection of Malacca is less than what it was, and the breeding fliers of swarms Nos. 5 and 4 of the map, have left few descendants. The swarms 2, 6, 7 & 8 have bred freely especially 7, so that the Tebong Estate almost from end to end of its 5,000 acres is full of locusts.

Sd: J. Henry Burkhill 51-2-14

BB.1/8

P.S.

The third locust destroyer is not called for yet, but when the new fliers 5 weeks hence begin to breed, and 5 weeks hence their hoppers begin to emerge, it will be seen if he is wanted.

Intd. I.H.B. 51-8-14

V.E.

Submitted for information. The delay in obtaining traps is annoying; otherwise the report is satisfactory.

Intd. W.G.M. 2/9/14

C.S.

I agree

Intd. R.J.W. 2/9/14

R.M.

To see

Intd. S.M.C.A. 2/9/14

C.S.

seen

Intd. W.C.M. 4/9/14

B8.1/9

The Resident to consult Mr.CJBrain and state what further assistance is required.

Itd. W.F.W 30/8/15

R.M.

For necessary action

Intf. W.F.W 30/8/15

C.S.

I have consulted Mr.Lewton Brain as requested and enclose here-with copy of a report from his Chief Agricultural Inspector which he forwarded to me.

2. Mr.Lewton Brain suggests that the total \$28,000 mentioned in the above report should be divided between Malacca and the Federated Malay States .

He further suggests that instead Malacca should pay a fixed sum of say 20,000 to the Federated May States locust account and that the work of locust destruction not merely on the Malacca-Negri Sembilan boundary but also elsewhere should come under his department.

3. While considering as I always have done, that the work of locust destruction should be under one management, I am not prepared to agree to Mr.Lewton Brain's suggestions in toto.

In the first place I see that the Jelore border is included as well as that of Negri Sembilan in the estimate of the Chief Agricultural Inspectors and Jelore should therefore make a contribution towards the expenses.

In the next place I think the estimate far too high. For if the Negri Sembilan border which is the worst breeding ground of the locust required only 24 sprayers this year malacca & Jelore cannot need 100 extra sprayers between them.

I should say that the estimate could be almost halved say \$15,000 and I think that Malacca should contribute \$5,000. We shall probably spend just over \$10,000 this year on locust

destruction in Malacca.

I do not think therefore the total contribution of Malacca should amount to more than £15,000.

Intd.W.C.M. 6/10/15

R.M.

There has been a mistake. Mr. Cowley Brown's views were wanted and not those of Mr. Lewton Brain. I am sorry.

Intd. R.J.W.S/10/15

C.S.

I enclose a copy of Mr. Cowley Brown's views by which it will be seen that he is in favour of the bag trap system solely and ~~M~~ against spraying.

2 I do not see any reason to alter my minute of 22/9/15 and 6/10/15 on this paper. The bag trap system is not sufficiently effective in the big Lalang wastes along the N.S. Malacca border.

spraying, I am afraid must be resorted to there and it must be done as one piece of work under one management and the expense shared between the F.M.S. and the Colony. If the Johore boundary is to be included also (I think it should be) then Johore too should share also in the cost.

Intd.W.C.M 18/10/15

38.4/11

29th July 1915

Sir,

With reference to your paper No. 2544/15 I have the honour to report that I visited Malacca from the 20th to the 24th and discussed locust matters with the Resident and Mr. Cowley Brown.

2. I visited all the districts in which destruction work was being carried on and also a number of places in which locusts had at one time or another occurred.

3. The work may be divided into two classes—that among the Kampong, sawahs, and estates particularly in the central District and that among the lalang wastes (forest reserves etc) on the Negri Gembilan-Johore boundaries. The former work has been attended to quite thoroughly, though even here more a apparatus is required.

4. Little work however has been done in the second class of country and what has been done, owing to the methods employed and the scale of work, can have had very little influence on the incidence of the locusts.

5. If the destruction work in Malacca is to be carried out on the same lines as in the Federated Malay States and Johore, it will be necessary to deal with the lalang areas much more vigorously; while the work in the cultivated districts should be carried on as before.

6. As regards methods, I think there can be no doubt that it will be advisable to use poison in these lalang wastes and I understand that the Resident would have no objection to this. He considers, however, and I quite agree with him that poisoning would be far too risky in the neighbourhood of the Kampongs and here I am afraid it will be necessary to retain the slower bag-trap method.

7. Mr. Cowley Brown considers, I think rightly, that one European will not be able properly to supervise work on the lines suggested and I am afraid that it will be necessary to employ another assistant for the border region. The Resident suggested that this assistant should be stationed at Tampin and should work on both sides of the border, in which case his salary and allowance would be shared between the Federated Malay States and Malacca. I am inclined to think this would prove the best arrangement and certainly no attention should be paid by any assistants in this districts to the boundary lines.

8. I am afraid that work in Malacca, owing to the denser population and the impossibility of using poison over large areas will be more expensive than in the Federated Malay States. Up to the present I understand that expenditure has averaged about \$800 per month. If a good deal more apparatus and materials are to be bought and the work is to be carried out on a large scale, the expenditure must range from \$1,500 to \$2,000 per month or say at least \$20,000 for the year.

9. I think it is agreed that this work should be co-ordinated with that in Negri Sembilan and Johore and that the Special Assistant or Assistants should be attached to this Department. They would, I take it, be directly under the control of the Chief Agricultural Inspector here.

10. It may be necessary to introduce legislation on the lines of Sections 12 A, 13 and 14 of the Federated Malay States Agricultural Pests Enactment, as amended.

11. In conclusion I should like to say that I consider that Mr. Cowley Brown has done the work he set out to do extremely well, I should be very glad if he could stay on and supervise the work generally in Tampin and Malacca. I understand, however, that he does not expect to keep on with this work and that it will be

it will be necessary to endeavour to obtain other Assistant

I have etc

sd. L.Lewton-Brain.

Director

The Under Secretary  
Federated Malay States  
Kuala Lumpur.

Dec 1/14

Copy

R.M.

The only two methods of destructions are bag-trap and spraying; these are two dissimilar classes of destructive work. Bag-trap is the more effective in the long run and bag-trap work is also the more practical method. Bag-trap work is easily picked up by natives. Bag-trap and sheets are very probable. Natives see immediate results from their labours and do not become slack as is liable to be the case when no immediate results are visible i.e. spraying. Bag-trap can be used in Karangas, sawahs, padangs, bukit lands etc., and this is not like spraying a work which has to be confined to certain localities.

I am of opinion the present lines (bag-trap work) are the right lines upon which destruction in Malacca should be run and that greater control of locusts than obtained at present can be gained better by extending the present system than by innovating spraying.

My personal view regarding the future is that bag-trap work solely should be done. Bag-trap work was the one method employed in Malacca during the last year, i.e. twelve months.

The vote and extensions for 1915 amount to \$10,200. This is sufficient, or at the most just slightly inadequate to carry on destruction with the present labour force and apparatus (bag-traps) until the end of the year, but is insufficient if spraying is begun this year as the balance \$3,157-26 as at Oct 1st 1915 of the \$10,200 is too little to allow of spraying being done on a scale capable of showing good results soon after commencement.

In 1916 or at once to secure greater control of locusts by A bag-trap method, it is necessary to have only another six bag-trap and attendant sheeting along with the services of an additional officer and those of another locust scout or two; but to secure

greater control by the B. Spraying method a spraying machine for every locust is necessary i.e. 100 locust locusts to have 100 spraying machines, beside a great deal of supervision by officers trained conductors, Mandars and watchmen must be exercised, further to carry out spraying large quantities of chemicals are wanted and much time is occupied by investigating compensation claims made on account of death of bullocks etc, due to the consumption by them of grass etc growing upon the sprayed (reisened) areas.

Spraying. On the occasion I have seen spraying done in Negri Sembilan - I have seen no spraying elsewhere - I have noted it is a work involving such numerous precautions to prevent danger to the native population and animal life by contamination of the water supply, streams, that I am convinced each gang of sprayers for Malacca of necessity require supervision by an officer until the time each gang becomes thoroughly conversant with the many precautions found necessary in the Federated Malay States: such precautions being equally necessary (if not necessary to a greater extent in the thickly populated and extensively cultivated territory than in somewhat undeveloped-agriculturally-and sparsely populated Negri Sembilan) for adoption here in connection with spraying: then to avoid carelessness in carrying out these precautions supervision by reliable conductors (essentially one to each gang) will still be required, i.e. ten gangs at initiation of spraying to require the supervision of ten officers.

One officer, during initiation stage, under whom are first class conductors, might if imperative because of shortage of officers keep an eye on two gangs during a day, providing two gangs work in close each other. Gangs will time after time work at distance of 30 to 40 miles apart, in such cases the possibility of one officer giving attention to more than a single gang in one day is eliminated.

These are my views.

B8.1/16

sd.P.C.C.B. 14-10-157

Department of Agriculture  
Federated Malay States

Kuala Lumpur, 1<sup>st</sup> Sept. 1915

Estimate of the Expenditure for Destroying locusts in the lalang land in the Malacca, Negri Sembilan Jelore boundaries.

Sir,

I have the honour to submit herewith an estimate, as described above, in reply to your minute of 2-3-15. This estimate is based on experience obtained in the Federated Malay States but is only approximate, because I have no first hand knowledge of the conditions obtaining or the number of swarms present ~~now~~ on the Malacca side of the boundary. I have assumed, however, that the nature of the boundary, the approximate number of swarms present and the labour conditions are similar to those occurring in the lalang country of the Tapin district.

2. The estimate is based on the assumption that 100 spraying machines will be sufficient in addition to the 24 used last season on the Negri Sembilan boundary. The 100 sprayers require 100 coolies to use them and I think these could conveniently be divided into 8 gangs. Each gang requires 2 mixing coolies of whom one should be the head cooly of the gang. Eight conductors or Mandors are also necessary and one additional European under whose control ~~now~~ probably about 6 of these gangs will be placed. The remainder will be under the supervision of the Federated Malay States Officer working in the vicinity of the boundary which he will not be required to consider. The positions of conductors and Mandors can be filled by trained men from the Federated Malay States whose salaries are estimated at the amounts of which they are or have recently been in receipt. Some trained coolies from Tapin might also be available at the rate put down in the estimate.

3. An examination of the records of destruction work in the Tampin  
district and in Johore shows that about 170 days of work per year  
have been necessary. The generations of locusts in Malacca, while  
they may not absolutely coincide with those in the above mentioned  
places will not present more working days for the destruction of  
the hoppers.

4. In order to keep trace of the swarms while the insects are  
flying and in order to locate breeding grounds promptly, so that  
the hoppers may be poisoned immediately they hatch, it is desirable  
that about 20 scouts be employed for the remaining 143  
days which completes the 313 working days of the year. It has been  
found by local experience that greater efficiency is obtained  
through the employment of these men and at the same time a saving  
is effected in the cost of destruction which more than provides  
their wages; in addition the payment of rewards is obviated.

#### ESTIMATE

##### Salaries and allowances.

1 European officer per month \$200 .....	\$ 2,400-00
1 Motor cycle allowance at \$30 per annum	360-00
1 Consolidated allowance at \$30 ,	360-00
	-----
Total per annum	\$ 3,120-00
	-----

##### Labour Force

###### Three Conductors:-

Two at \$35 per month each .....	840-00
One at \$20 ..	240-00
Three bicycle allowance at \$10 each .....	360-00
Five Manders ..... one @ \$1-25 p.d.	456-25
Three at 70 cts. per day .....	766-50
One at 60 cts. per day .....	219-00

Contingencies ..... \$796-45

Grant Total \$25,000

6. The work in Malacca will not, of course require the initiation of destruction work on new lines, but merely the extension into that territory of those methods employed with success in the Federated Malay States and Johore. The exact procedure and the amount of supervision desirable here have been determined by experience but for work in Malacca the strength of the labour force is a matter on which I hesitate to give an opinion and this is the factor which must necessarily govern the estimate.

I have etc

sd. F.W.South

Chief Agricultural Inspector  
F.M.S.

The Director of Agriculture

F.M.S.

Brought forward..... \$2,881-75

Coclies

8 head coclies at 55 cts per day for 170 days	. 748-00
100 coclies at 40 cents per day for 170 days	7,344-00
20 scouting coclies at 40 cts. per day for 143 days.	1,144-00
	<hr/>
	\$12,117-75
	<hr/>

Materials Transport etc.

Prison

10 cwt. arsenite of soda per week for 29 weeks at \$15-50 \$4,495-0

Sugar

12 piculs per week for 29 weeks at \$10 ..... 3,480-

Transport at \$10 per week for 29 weeks ..... 290

,, at \$2 per week for scouts for 23 weeks ..... 46

Housing at \$10 per month for 7 months .... 70

Apparatus:- 

---

 \$8,381-00

Sheeting

56 Sheets of 15 yards each at \$15 per sheet 840-00

Iron supports 224 at 20 cts. each ..... 44-00

Sprayers

100 "four oaks" sprayer at \$27-50 each ..... 2,750-00

Spare parts and repairs to above ..... 250-00

Warning notices

250 large size at \$1 each ..... 250-00

500 small size at 30 cts. each ..... 150-00

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 \$4,284-00

Office of Director of Agriculture

Federated Malay States

No. 24 in 1414/1913

Kuala Lumpur 22nd July 1914

Sir,

With reference to your letter No. 11 in 12567/13 I have the honour to submit proposals for dealing with Locusts in Malacca and an estimate of such expenditure as would appear to be in conformity with the conditions laid down there.

2. You will note that provision is made for a European Special Assistant. This in my opinion is absolutely essential if the work in Malacca is to be carried out efficiently as in Negri Sembilan. The Assistant Agricultural Inspector will be quite unable personally to supervise the work in Malacca constantly and unless someone responsible is in charge daily the probability is that a great part of the work will be wasted. The Assistant Agricultural Inspector will only be able to pay occasional visits to direct the work.

3. I would like to point out that the division of the Locust force into two parties unable to work in each other's territory is not the most effective from the point of view of Locust destruction.

4. I have assumed that the Federated Malay States will supply apparatus and materials.

The Under Secretary

Federated Malay States

Kuala Lumpur

66/20

5. On the above lines the following is the minimum estimate for an effective year's campaign in Malacca:-

One special Assistant @ \$200 per mensem ..	\$2,400-00
Comuted Allowance \$30 per mensem ..	360-00
Motor Cycle Allowance	360-00
One Motor Cycle .....	300-00
3 Matelots @ \$30 per mensem .....	2,880-00
3 Bicycle allowance @ \$10 .....	960-00
80 coolies per (25 days per mensem)	12,000-00
Incidentals (cart hire, crude oil &c) .....	740-00
-----	
Total	.20,000-00

6. Should the above estimate be passed I would ask what arrangements will be made for the accounts.

I have etc

(s.l.), H. Leerton-Brown

No Minutes should be written on this page. A separate half-sheet  
to be used if required.

8/1/22

X



Received 24.1.16

21.1.16

Answered.....

Dear Burkhardt

I have managed to bind Pratt up & fasc. Is up to now a letter or two on one side & a few rich have you found any opinion? I should say very Lembitan had 3 or 4 times

28.1.23

as much as we have.  
In the papers A. Train  
wanted meadow to  
pay \$20, or. This  
is too much. Mitchell  
proposed \$5000,  
which I think.

\$1000 & \$10, or a  
new idea - Ret-

Botanic Gardens,

Singapore,

24th. January, 1916

Dear Mr. Wolferstan,

I did not know that Nicholl had put down \$5,000 as the sum which might reasonably be paid to the F.M.S. Department of Agriculture for Locust-destruction; but I imagine that he would now put it at a higher rate for in 1915 the vote with its extensions amounted to \$10,200.

Cowley-Brown would not waste any of its and we may well say that one good officer supervising whole time can carry out work amounting to that in value. The amount includes Cowley-Brown salary. In addition to that, the Government spent a little in my time and travelling expenses, which as I trusted Cowley-Brown completely, did not amount to much.

Now supposing that the F.M.S. should send us an officer capable of getting through as much as Cowley-Brown, a fitting reward for then would be \$10,200 plus the cost of the time and travelling of the Agricultural Inspector who supervises that officer say \$500. Therefore \$10,700 will be a reasonable reward.

But I do not like the proposal exactly as it stands. What I should prefer is that the F.M.S. should receive only the reward for the time and travelling of the Agricultural Inspector, while the Colony pays its own bills for the executive officer and the labour. What I should like best of all is

the Tampin man should be handed over or lent, the Negri Sembilan Agricultural Inspector investigating his work.

You must remember this:- that the P.M.S. Department have long been in the habit of saying that the Leoparts come out of Malacca, whereas they work backwards and forwards over the frontier; and that on Lewton-Brain's own confession he did not know the state of things in Malacca. Therefore he sat down and asked for so much as would enable him to effect something supposing the Leoparts really were as bad as his subordinates would have him believe. He made a safe estimate. Will you ever get the P.M.S. Department to do otherwise? Therefore I say meet your own bills as they come in; and if the Leoparts should happen to gain on you prepare to spend more; or if they are dropping out, save.

Now as regards the extent of Jallang swarms, they are three times as wide in Negri Sembilan, I think, than in Malacca, while the state is about four times as big. And there is only a very small part (if any) where poisoning methods will yet ~~not~~ kill buffaloes; and the somewhat more expensive bag-trapping has to be resorted to. So that the Malacca expenses are higher per acre of the less extensive Jallangs. At the same time, the country is sufficiently densely populated and the organisation excellent for information of swarms to be brought in without recourse to the rather lavish rewards given in the P.M.S. news of the

The lavish rewards and the \$20,000 asked for by Lewton-Brain set no against the P.M.S. Department of Agriculture doing the work; and I think that to some degree the department rather hoped to be able to keep

on having the chance of saying that they could never make an end of the business while Malacca prevented them.

I am glad that you have sent Pratt to Jasin. I suggest that he should be sent there as the locusts were not breeding at all in Aler Gajah. He is of little use.

I expect to get away on Thursday next, and will go to Tampin, whence I will come into Malacca on Friday morning, if after seeing you I find out that Pratt is really a dead horse, I will not spend the time on doing much flogging.

I think that I shall hardly be able to make use of your permission to go to the Cottages.

I have not forgotten your request for artichokes but there have been none in the market recently.

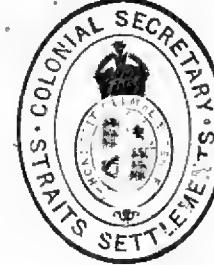
Yours sincerely

is yours?

Yrs sincerely  
Sephofastan

B8.1/27

O.A.B.



Colonial Secretary's Office,

Singapore,

March, 1916.

Telegraphic Address:-

"SECRETARY, SINGAPORE."

It is requested that the following number be quoted in the reply to this letter.

MALAYAN 7843/15.

Sir,

With reference to your minute of the 19th January, 1916, on Colonial Secretary's Office correspondence No. 7843/15, I am directed to forward for your information the enclosed copies of a letter from the Under Secretary, Federated Malay States, and of my reply, on the subject of locust destruction in Malacca.

I have the honour to be,

Sir,

Your obedient servant,

*W. G. Glazebrook*  
Ag:Colonial Secretary,  
Straits Settlements.

The Director of Gardens,

S I N G A P O R E.

B8.1/28

COLONIAL SECRETARY'S OFFICE,

SINGAPORE, 2nd March, 1916.

Malayan 7843/15.

Sir,

In reply to your letter 5 in 6327/1915 of the 7th February relating to locust destruction in Malacca, I am directed to inform you that this Government agrees to the proposals contained in the memorandum prepared by the Director of Agriculture, Federated Malay States, and that a vote of \$20,000 will be taken to cover the estimated expenditure.

I have the honour to be,

Sir,

Your obedient servant,

(Sd). W. George Maxwell,

Ag:Colonial Secretary,  
Straits Settlements.

The Under Secretary,

Federated Malay States,

K U A L A      L U M P U R.

B8.1/29

KUALA LUMPUR,

FEDERATED MALAY STATES.

No.

5 in 6327/1915.

7th February, 1916.

Sir,

Referring to your letter No. 7843/15 of the 12th January, 1916, on the subject of the task of locust destruction in Malacca, I am directed to forward herewith for your consideration a copy of memorandum prepared by the Director of Agriculture, and to say that if you agree to the proposals contained therein, the Director of Agriculture, will be asked to settle details with the Resident, Malacca.

I have the honour to be,

Sir,

Your obedient servant,

(Sd) W.H. Mackay,

for Under Secretary, F.M.S.

The Honourable,

The Colonial Secretary,

Straits Settlements,

Singapore.

p.8.143c

Memorandum.

I propose that the whole Expenditure for Locust destruction in the F.M.S., the Colony and Johore for the current year should ultimately be divided between the different Governments in the following proportions:- F.M.S. one half, Colony one quarter, and Johore one quarter, with the proviso that the contributions of the Colony and Johore should be limited to a maximum of \$20,000 each.

The expenditure should be met in the first instance by advances for the purpose to the Department of Agriculture. These advances would be adjusted at the end of the year and the final allocation of the liabilities made in accordance with the actual expenditure incurred.

There is provision in the F.M.S. Estimates for an expenditure of \$50,000 and the Johore Government have undertaken to make a contribution of \$20,000. What is asked of the Colony is that they should be prepared to make advances to the Department of Agriculture up to a maximum of \$20,000 which would eventually be adjusted in the proportionate manner suggested above. An advance of \$25,000 would be asked for in the first instance.

If this arrangement is approved (and I understand from the Resident Malacca that he regards it as equitable) this department will accept initial responsibility for all expenditure already incurred in Malacca in respect of the current year, and will take steps at the earliest possible opportunity to take over the Locust destruction work in Malacca.

I hope that the work will not be subjected to the handicap of any hard and fast prohibition of the use of poison, it being understood that this method will not be used except by trained and experienced men and under adequate supervision. The continued absolute prohibition of the use of poison in Malacca territory would add considerably to the difficulty and expense of dealing with this problem.

(Sd). E.S.Hose.

Ag: Director of Agriculture.

29th January,

B81/31

1916.

38.1/32

Gardiner

7296/  
1915

(G. 3.)

From Whom ....

S. G. G.

Place ....

S.

Date ....

26.11.15.

Appointment of a Special Assistant  
for Forest Protection, Malacca, instead  
of Mr. Cowley-Brown (transferred).

Former Papers.

MINUTES.

Final Paper.

R. M.

For your Observation

Std R. J.W. 30.11

I kept this back until Mr. Burkill came here.  
Mr. Pratt can be tried, in fact there is no choice at present, but  
it is a great drawback that he knows no Malay. I have told  
him that he must learn at once enough to get on with.

He is, I understand, to get the same pay (\$200 p.m.) and  
allowance (\$60) as Mr. Cowley-Brown and as he was  
engaged in Singapore his expenses to Malacca should be  
paid. No warrant will be required. He does not ride a  
motor bicycle, but a side car, if approved, could be cheaply  
acquired & fixed to it and he has a man who can run  
the motor bicycle.

B8.1/33

Do. 10.11.15.

J. G.  
approved

J. H. 16.12

C. S.

Noted

I have started Dr. Pratt in his work  
from Oberlin and intend to finish  
it in New Haven

J. H. C. L. 16.12

J. F. Gardner

I return this  
paper which I found

in my box -

Yours

12 M.

Minute paper No.

Gentex 7296/pos.  
Sheet No. 2

Sir,

I have the honor to inform you  
 that you have been appointed Special  
 Agent for Courts-Construction in  
 Malacca. Retirement in the post  
 depends, inter alia, on your learning <sup>quickly</sup> enough  
 Malay for your work.

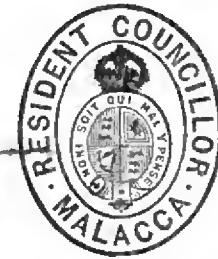
Your pay is at the rate of ~~per~~ two  
 hundred dollars <sup>(\$200)</sup> per measure; and you  
 will receive half dollar <sup>(\$10)</sup> per measure  
 commuted travelling allowance; and half  
 dollar <sup>(\$5)</sup> per measure cycle allowance.

I have  
st.

D.W.

A.W.H. Hall.

P. 8.1.83  
56



26/12/15

17/12/15

Dear Burkitt,

I have received your letter about Mr. O'Brien. I think he would be an excellent man to take or if two men are necessary. At present he can be kept in view in case Mr. Pratt is not a success. I am quite prepared to take one or two men & make a big effort & absolute

do away with the  
counts of the S.  
again.

I will leave you  
letter for Wolfstan  
to me saying that  
I agree with it

I note about Mr.  
Bratt saying half  
the advances this

month & the other

half next month &  
I will leave word  
with Wolfstan about  
it.

Yours sincerely,  
W. Cunichell  
P.S. I presume C.S.  
opposes Mr. Bratt.  
I have had no word  
from L.

15th December, 1815

Dear Michell,

*Ho. f.  
Spn.  
Bsp  
hanc.*  
I suggested to Pratt yesterday that his advance  
should be paid back in two months and he agreed. If  
there should be any reason for extending it to three  
months that can be considered later.

I met O'Brien at dinner at Penrhyn; and he asked  
me quietly if there would be any change for him in  
Malacca, saying that he was in the junior assistant  
for Locust destruction over the border and might expect  
to be the first released out. I told him that there  
is a change, and that I would bear him in mind, as  
well as tell you.

If you want me to see Locust destruction, I think  
that O'Brien would serve us satisfactorily.

At the present moment there is hardly work enough  
to justify putting him in; nor is he in a hurry for  
a post. But a couple of months hence the work may be  
heavy.

You have proposed two ways. The proposal right now  
go a little further. We could have both O'Brien and Pratt  
at work for a time, make a big effort to stifle down  
the Locusts, and if successful reduce ~~so~~ the general  
(O'Brien probably) when we are no longer justified.  
The arrangement would insure us against being left hanging

O  
O

It would suit my book best to know that when required I could engage O'Brien.

If you approve I will ask the P.M.O. Department of Agri. Culture, about sending him.

Sincerely yours,

*J. H. C.*

29th November, 1815

Dear Mr. Pratt,

I have authority to ask you to take up the duties of special Assistant for Beaufort destruction, Malacca, at the earliest possible date. Your letter of appointment will follow. It is probable that it will contain the condition that you must learn conversational Malay in the least possible time up to a standard sufficient for your work.

In order to commence work, you must report yourself at the office of the Resident, Malacca, and receive from him charge of the on-shore apparatus etc.

You will take orders from him, but be subject to inspection from me. I am writing to him to inform him that you will report yourself to him.

There is a boat leaving for Malacca tomorrow, the Lady Wala, by which you could travel.

Yours faithfully,



Director of Gardens, S.G.

A.W.H. Pratt Esq.

Beaufort Institution

B8.1/37

A.W.H.P Pratt

Subinspector in the Jamaica Constabulary from Oct. 8th., 1893 to Dec. 1899 wounded in a riot in 1894, and commended by Sir Henry Blake, then Governor invalided with a gratuity.

Clerk in Indigoineas cables Office for some months, at Cape Town, left on reduction of establishment with a good character.

Acting Stores officer, Cape Town from Jan. to the end of July, and left on reduction of staff with a good character.

Taken on in the Bechuanaland Police, but found to be too tall and heavy for the required service; therefore his services were dispensed with in November, and a permanent clerk's return in whose place he would have worked.

On the Nederkloof Railway extension from March 26th to July 16th as a temporary overseer, and left with a satisfactory report, which explains that he was honest and straightforward and hard working but handicapped by having had no previous experience.

Stores keeper with Messrs. Mr. Gordon Fraser & Co. Colombo for six months, and left owing to illness 1st. October, 1896.

Acting Sergeant Major in the Seylon Police from April to December, 1907, left at his own request

Age will be 46, born at Sandwich, Kent.

28th November, 1816

APPOINTMENT OF A SPECIAL ASSISTANT FOR LEONIS-  
DESTRUCTION, MALACCA, vice Mr. Cowley-Brown transferred.

Sir,

I have the honour to put before you the name  
of Mr. Albert William Henry Pratt, for appointment as  
temporary special Assistant for Leonis destruction, Malacca.

Mr. Pratt is not the man who I would have chosen,  
had there been any choice; but there is none at  
present, as he has but the smallest knowledge of Malay;  
and I suggest that his appointment should be subject  
to his learning the language sufficiently for his work  
at a rapid rate, and satisfying the Resident, Malacca,  
that he is doing so.

I enclose a medical certificate and details of  
his career. I have seen many certificates that do honor  
one another from them that he is honest and  
steady, two qualities of the first importance.

I have the honour to be, Sir,

Your obedient servant,

J.W.B.

Director of Gardens, S.S.

The Honourable

the Colonial Secretary,

Singapore,

B8.1/39

4. W. H. Pratt 1892-1893 K. month in P.W.D. Jamaica.

1893

- 1899

Subinspector in the Jamaican Constabulary  
from Oct. 1st, 1893 to Dec. 1899  
wounded in a riot in 1894, and commended by  
Sir Henry Blake, then Governor  
invalided with a gratuity.

1901

- 1902

1903

1905

Clerk in Indigoine cables Office for some  
months, at Cape Town, left on reduction of  
establishment with a good character.  
Clerk under Captain, R.R.D. Service  
out door Customs officer, Cape Town from Jan. to  
the end of July, and left on reduction of  
staff with a good character.

1905

Taken on in the Bechuanaland Police, but  
found to be too tall and heavy for the mounted  
service; therefore his services were dispensed  
with in November, and a permanent clerk's return  
in whose place he seems to have worked.



With Mr. W. H. M. M. Natale.

1908  
- 1910

On the Mopane Railway extension from March 28th to  
July 15th as a temporary overseer, <sup>and afterwards in various other places</sup> and left  
with a satisfactory report which explains that  
he was honest and straightforward and hard working  
but handicapped by having had no previous experience

1910

Store keeper with Messrs. Mr. Gordon Frazer and Co  
Gaborone for six months, and left owing to illness  
late October, 1910

1907

Acting Sergeant Major in the Ceylon Police from  
April to December, 1907, left at his own request

Age will be 46, born at Sandvile, Kent.

1911

Store keeper on the railway (Locomotive workshop)  
8 months - until post given up -

1913

on a rubber estate.

1914

~~in~~ Ceylon Quarantine & Immigration camp  
Manager or Assistant Superintendent.

1915.

Received Dec. 11. 1915

MEMORANDUM.

From

To

23/11/1915.

Dear Comptroller,

I enclose you <sup>as</sup> the accounts I got only from 2 firms in view before he left.

It will extend to £10,200, which will be approximately all spent.

I am afraid it will be somewhat difficult if the war man cannot ride a motor cycle.

Am I right in my view

The man or perhaps two men should be sent up at once, as otherwise the planters will be calling out, although they promised (or rather said) to get us a man.

Copy.

R. M.,

The vote and present extensions are ... \$10,200-00  
The expenditure as at 31st October was ... 7,816-80  
The cash in hand as at 1st November was ... \$2,383-20  
There are 8 scouts at 14/- per month i.e. Scouts, November and December salaries ... ... \$224-00  
Two scouts receive and allowance of 5/- each p. m., i.e. Scouts November and December Allowances ... ... ... ... 20-00 Inspector's salary and allowance for 9 days ... ... ... ... 78-00 The new Inspector salary and allowance for Nov. and Dec. may be taken as Nov. \$160, Dec. \$260 ... ... 420-00 The Locust coolies daily pay for 9 days may be taken as 576 coolies at 40 cents ... ... ... ... 230-00 \$972-40

From 10th November to 31st December 1915 for Locust Coolies Daily pay, Transport Expenses, repairing trap-bags etc the amount of cash in hand is roughly ..... \$1,410-80

I make no allowance for new trap-bags.

Sd. P, C. C-B.,

9-11-15.

No Minutes should be written on this page. A separate half-sheet  
to be used if required.

107

14N. Notes

From Whom .... U.S. to Govt.  
 Place .... K. Lumpur  
 Date .... (2 in 12507.13) 5.1.14.

Occurrences of Locusts along the boundary between Malacca & the Lamputia District of Negri Sembilan.

Enquire whether steps will be taken by the Col. Govt to co-operate in the campaign against the

Former Papers.

MINUTES.

Final Paper.

C.S.

Doff.

For your observations.

9.1. " R.J.W.

C.S.

Action in Malacca shd go hand in hand with action in the adjoining part of N. Sembilan.

On p. 81 of the Agric. Bulletin for Nov. 13, the Chief Agricultural Inspector expresses a hope of having share apparatus within 6 weeks of Oct 1st when he wrote. I suggest that the Ins. do basket if they can allow a colonial subordinate with sufficient

Sheet 2

C.S.

Warrant herewith

N. 2.14 M.K.

is taking action with the  
Resident, N.S.

E.B.M. 5.6.14

R.M. For report

Y.E.

Submitted for signature C.S.

17.2. R.J.W.

A.Y.

18. Feb 14

Treasurer

Please register

Copy 19.2.14

As soon as the vote of \$500 was authorised I communicated with the Ass. Agricultural Inspector in N.S. and interviewed him on 24.2. It arranged after discussing the matter with him that it would be best to try to obtain ~~from~~ loan of the services of three F.M.S. malay mandors with knowledge of locust work to come to Malacca and locate swarms. I arranged that he apply to the D.o.f A.

C.S.

Registers & Sent herewith  
to the Audit office

M.K. 20.2.14

loan of the services of three F.M.S. malay mandors with knowledge of locust work to come to Malacca and locate swarms. I arranged that he apply to the D.o.f A.

C.S.

Warrant retained

Resident, Malacca,

D.o.f G. To See

E.B.M., 25.W.14

C.S. Seen

L.C.P.W. 25.2.14

C.S. Seen

I.H.B. 11.3.14

(5) Letter from U.S. dated 28.5.14

C.S.

This paper was incorrectly filed before the F.M.S. had been informed what action was proposed, but presumed the R.M. was proposed, but B8.1/45.

I authorised the engagement of two local malays in Alor Gajah and since 1.6. two more have been

2. I waited till 20.3 and hearing nothing wrote to the D.o.f A. After one reminder, the D.o.f A. wrote on 24.4. that the mandors could not be spared.

3. We have no special department here and ~~no~~ no plethora of officers to put up work of this kind. With difficulty I had a trap made. As soon as I found that the F.M.S. could not help

I authorised the engagement of two local malays in Alor Gajah and since 1.6. two more have been

engaged. I have also borrowed two more traps from the D.o.f A. and sent them to Alor Gajah. The D.O. will do what he can, but he has already more work than he can manage.

4. Malacca and N.S. are geographically one. The simplest and most effective plan is for the Colony to ask the N.S. Locust staff to deal with Malacca and pay for the work. I believe very large ~~MADAM~~ sums are being spent in the F.M.S. I have also great doubt as to whether the locust danger is anything likeas serious as the Agricultural Department F.M.S. represent.

5. The alternative is to detail an officer from the Gardens' Department to come to Malacca, organise a staff, and of course spend a good deal of money.

6. The D.O.A.G. tells me that so far the people have ~~MADAM~~ in some mukims of Alor Gajah have given assistance and a good number of fine of locusts have been brought for reward. On the railway line towards Tebong and Batang Malaka they are very lazy and will not help.

7. The reports I receive are that the N.S. side has far more locusts than ours, hardly I presume, because of the large stretches of Balanc.

L.G.P.W. 6.6.14

R.J.W. 13.6.

(4) To U.S. F.M.S. 16.6.14

R.M., To see. S.Mo.A. 17.6.14

C.S. Seen. W.C.M. 18.6.

D.o.f G.

To see.

S.Mo. A.

C.S.

B81/46 This department is not staffed so that it can

Sheet 4

help. Joint action with the F.M.S. is what I still recommend and that the Department of Agriculture, F.M.S. be asked to direct operations for a fixed period chiefly through the border land north of Alor Gajah.

If the D.of A. were asked (8) if he will accept the direction for two months and (88) what in men and money he will require, the case will be forwarded by his answer, and the granting of the necessary funds can be discussed.

I am strongly of opinion that something should be done for the sake of the growers of rice and coconuts; and I think that the granting of \$500 without direction was playing with the case.

I.H.B. 22.6.14

PS. The recently reported invasion of Johore by locusts introduces a third party. The D.of A. might be asked through his Government how the situation is affected by it. I.H.B. 22.6.14

V.E.

I agree with the R.M. and the D.of G. that the best way of dealing with the locusts is to ask the F.M.S. to send part of its locust extermination staff to Malacca and to take all necessary measures at the expense of the colony. The configuration of the country renders this easy for the is an artificial one.

W.G.M. 24.6.14

C.S. Will you please ask the D.of G. to come to see me with you. R.J.W. 25.6.14

D.of G. Will Saturday morning 10 a.m. at Govt. House

suit you? W.G.M.

C.S. Spoken. The D.of G. will proceed to Malacca and report after making provisional arrangements for

Sheet 5

carrying on the work of Locust destruction.

R.J.W. 26.6.14

D.of G.

No notice and return early ploughs.

W.G.M. 26.6.14

C.S. Noted

I.H.B. 27.6.14

R.M. For your information W.G.M. 30.6.14

C.S. Seen W.G.M. 2.7.14

(5) Letter from R.M. dated 15.7.14

(6) Letter from D.of G. 18.7.14

C.S.

Please telephone to D.of G., ask him to send a copy of this report direct to R.M. at an early opportunity W.G.M. 21.7.14

C.S. I have telephoned as directed. E.R.M. 22.7.14

X.E.

Please see (5) the M.P.A. ask if X.E. will receive a deputation

With regard to (6) it seems that the provisional arrangements for destroying Locusts are hardly adequate. The appointment of a Locust destroyer in Malacca town and of his two Locust scouts in Alor Gich and Jasin, with procedure for reports and directions is what it amounts to. It is rather like sending out a boy to do a man's work.

The possibility of the presence of the Locust destroyer being required in two places simultaneously does not seem to have been contemplated.

The proposal to do away with all below water seems

Sheet 6

Hardly practicable. But the Conservator of Forests might  
be asked to report. W.G.M. 24.7.14.

C.S. Herewith a draft. R.J.W. 25.7.

Signed W.G.M.

(7) to Resident Malacca 28.7.14

Another paper went to the D. o' G. today about Teakst-  
destroying. Wait until it is returned. W.G.M. 29.7.14

D Enclosure 5

To Resident Malacca.

I am directed by the O.A.G. to request you to inform the Secretaries of the M.P.A. that H.E. will be glad to receive a deputation from them at any time either in Singapore on the 30th. July 1st. August or 2nd. August, or in Kuala Lumpur after that date, if the Deputation will inform him in advance of the date of their coming.

2. In the meantime they will be interested to know that the D. of Ag. has been approached both directly and by instructions from the High Commissioner through the chief secretary and Under secretary. The Director has also been informed that the Straits Settlements Government and the Johore Government would be quite willing to pay the salaries of the locust destroyers employed on their sides of the frontier and would agree to those destroyers being placed under the general direction of the agricultural authorities in the F.M.S. To these proposals no reply has yet been received.

3. H.E. trusts that the M.P.A. will see that it has been seriously misinformed as to the attitude of the Colonial Government in the matter.

B8.1/50

10. *Leucosia* *leucostoma* *leucostoma* *leucostoma*

- 1 -

1920-21

4. That the destruction of the forests and the  
burning notes of the country in which <sup>the</sup> ~~it~~ <sup>is</sup> ~~is~~ <sup>now</sup> to close;  
and that as the tall trees are only surrounded by  
scrubby firs, it is difficult for forest fires to penetrate  
the woods from fires below; the opportunity for  
increased pitch ~~is~~ <sup>has</sup> however changed since the  
falling timber being more easily consumed than the scrub  
scrub wood, that there is not much timber  
remaining is impossible.

5. That the destruction of timber is one of the  
few we observed.

The other field of observation, that is to say, the  
protection of the regeneration of the forests, has also  
been under his charge.

The regeneration should take the shape of that  
the system of living fire preferred to burning  
that is the Indian and the Negro system. He did receive  
certain knowledge.

I have the pleasure to say Sir,

Your obedient servant,

Das.

Secretary of State.

REPORT ON LOCUST-DETERMINATION IN  
MALACCA TERRITORY.

Determination  
of the  
Locust

To obtain a determination of the Locust which has been establishing itself in the Malay Peninsula during the past two years, the Department of Agriculture, P.M.O., sent specimens in the first instance to the Indian Museum, Calcutta, and received back the reply that the insect is Pachytatus danicus, Linn. (Locusta danica or Tachytatus sinensis, Poler.). At a later date specimens were sent to the British Museum of Natural History, South Kensington, and thence the reply was received that it is not P. danicus. Again specimens were sent to the Department of Agriculture, at Kondalia, and thence it was reported that the insect is identical with that which causes damage in the Philippine Islands and is believed to be Eudocimus migratorius, Reiche.

The above information has been passed orally at my disposal by Mr. H. G. Pratt, the Entomologist to the Department of Agriculture, P.M.O.; but he himself is unable to give a name to the insect.

From Dr. Banks's paper on African Locusts in the Boileau-Gorges Planter, XI, No. 3, 1910, I identify the Malacca insect with which that authority calls "E. migratorius"; and as his figures confirm the determination received from the Philippine Islands, there is good reason for expecting that this name will be corroborated by the authorities at South Kensington, so when Mr. Pratt is sending ample material.

*E. migratoria* is the chief wandering locust of Tropical Africa: it multiplies in the grass-lands towards Lake Chad, and the swarms invade the country towards the coast, much of which is in the great Forest belt of West Africa: it has been recorded as occurring in Angola; it occurs on the eastern side of Africa from Abyssinia to Mozambique, and is the species which wanders at times in great swarms in German East Africa: in Madagascar it is called "the rock" as occurring in India, Timor, China, Australia, and New Zealand; it is apparently the "red tramp" locust of the Philippine Islands.

*E. campestris*, the Locust which the Governor of India's officer in Calcutta stated the Malayan insect to be, is the chief locust of the Mediterranean, whence it at times invades the countries northwards, e.g. it was the invading Locust of Germany from 1873 to 1876; it is found in Madagaskar, Mauritius, and the Ceylon islands; it spreads from the south of Europe along the same latitudes through Asia, extending northwards to Japan; it is found in Australia and in New Zealand.

From its distribution it will be seen that it is hardly of less extensive range than is *E. migratoria*.

Very similar to both those closely allied insects is the Brown Locust of South Africa (*Lactilia sulphurella*, Stål, or *L. capensis*, or *Locusta pardalis*), which multiplies enormously in the Kalahari Desert and throws its swarms on all parts of British South Africa at frequent intervals.

5.

Each of these three species under certain little  
understood circumstances forms invading swarms; and  
otherwise they are so similar that lessons learned from  
one may be applied in the case of another. However  
— the taking on of the migrating swarms condition,  
may be regarded as rectified by the numbers of the insects  
which find themselves together, and it may be stated that  
these numbers are rarely if ever reached along the  
insects have often grazed land in which to propagate.  
It is probable, seeing that everything insectivorous feeds  
on locusts when the chance comes, that their great  
multiplication in grassy lands is due to the relative  
scarcity there of the forms of life which suppress their  
numbers in other more favourable sections.

This connection of breeding with grass lands is  
important, and one of my suggestions for dealing with the  
pest ~~insects~~ is  
based on it.

The species of *Pachytatus* lay their eggs as do  
locusts generally, in loose soil, often in slightly damp  
soil, but it must be above all water. Although the winged  
swarm may feed in forests, they seek open places  
for breeding. The eggs lie in the soil for an  
incertain period, not hatching if too dry, and  
have been known to rest for three and a half  
years. A suitable degree of moisture ranges about the  
emergence of the hoppers; and in localities where rain  
may be delayed, the hatching of the young awaits its  
coming.

Where  
breeding  
occurs.

All the species of *Pachytatus* have a preference for  
grass as food, but eat readily almost indifferently

bedges and along, as well as in the leguminous plants. When in this position they defend their larva relations even to a point which would alarm them.

The early flight of a moving part of *Lactuca sativa* hibernated was last recorded in the Malabar Islands on 10 miles; and Mr. Frutt states that the flight of the locust in the Malay Peninsula will not exceed 25 miles. This distance travelled day after day brings them far from the breeding place within reach of invasion. Locust records are in a tabular form as follows: (i) Where there are no year the "heat" movement occurs; (ii) Where there are other unnumbered days record for 100 days and then from thence plus two; (iii) the ground "surviving portions"; and (iv) those year should be either of the former to be subject to invasion, but not differing breeding period or the following may probably be mention of the earlier of invasions).

The history of the locust in the Malayan peninsula has been as follows. It first attracted attention in February, 1910, in the neighbourhood of Fort Alagoa.

History  
of the  
peninsular  
outbreak.

Whence it came, in which month, and by what means distributed to Malacca and Sumatra (and to Java also) that the eggs of two kinds brought in soil from several neighbouring countries or it is conceivable that the winged insects reached the Peninsula, although *it* is reported unknown in Sumatra. Messrs. Frutt and South of the Department of Agriculture, C.M.S., who were sent to investigate it, found the eggs to hatch in 13-14 days, and the insects to run through their five molts as a pupa in 24-28 days, whereafter, they said, *they were* on the wing for

dering which they become  
three months, zero or less, ~~will~~ sexually mature, and after  
~~they~~ ~~breeding~~ — they die. These data subsequent  
observation modifies thus:— the period in the egg has  
a wider limit, but how near 15 days is to its finding  
is not known to us; the period after the first molt, the  
sexual maturity is certainly less than three months, and

Hr. Pratt in a recent letter to me says that insects  
~~life on the wing~~ ~~seems~~ have its limit at about two months.  
Let us call it 30 days, say, calculated after hatching, i.e.,

but no account followed. Both in this opinion and  
from my observations of the same + related facts  
here measured, we fix the time from the first molt to  
oviposition as follows:— ~~over the month~~ More have both

four months in the year, a certain majority, as all  
Europe, and North America. Insects have done well damage  
in old countries during the year. In 1903 there  
was a certain estimate of the total flight (Bonn and  
Berlin) in India made by Mr. J. H. Smith  
Leffroy, who found the duration to be only 3 months  
year.

When the insects were first observed in the Nari  
Ghatian, the interval was not fixed definitely, showing  
a considerable, and varying at random, so that  
the arrival in the country was evident. The insects  
which subsequently appeared in Sikkim maintained this  
characteristic of breeding synchronously (possibly due  
to a fresh hatched origin); but in the Nari Ghatian  
their breeding time came to spread out; and now  
according to my observations there are seven weeks between  
the emergence of the first hoppers of a generation  
and the last.

(and apparently after their sexual  
maturing, over more than one off laying)  
during three

return to the Rayburns at Laramie River. The  
Pawnee Indians seem to have met with some  
success in destroying the cattle of settlers,  
this is not the case in the north. But there were the  
same no Indians. It is reported in some of the  
books that this would suggest an attempt to be  
made on the people; but this is not correct for can  
it not be proved ~~that~~ that most of the Indian attacks  
~~were~~  
were caused by increase of the beavers in their habitat  
than that want of success in the deer hunt. We see  
to a greater infestation of the bark by the larvae; for  
chiefly happening now  
what is ~~now~~ is a pushing out of young trees  
the widest areas of grass lands in all directions; and

- the scene of the longer operations.  
 These widest areas are in the Negri Sembilan. Farms have been tried by Mr. Koene, the Extra-Assistant Inspector of Agriculture in Negri Sembilan, to the border of Jelebu near Seremban, and Monk T. will inform you of the results of his researches from the Jalan Selatpanjang to Malaia Inter-telegraph near the Bekok Rata. It may be assumed that they have concentrated their food supplies in the upper river ~~valley~~<sup>insects</sup> or under Negri Sembilan, the insectary country where they grow all the feeders.

Three additional factors - the Dipterora culicoides, in their increase or lessening - the insects of plants (Tucca), the Federated Malay States (Negri Sembilan) and Jelebu. Unfortunately, the Negri Sembilan territory, through Fleet 213, Mr. Negri Sembilan, will be a continuous Jelebu, there is not a single mile to come off and, if fact stretches, <sup>-at least permissively-</sup> where the Insects could travel. It is to be remembered that they want only 21600 acres for one occasion placing them in learning how to do so, and even in such confined areas as the small plateau rice fields.

During the last weeks, and, I might add, especially when I counted the swarms in Malacca territory, they were present in numbers in the towns of George, Larutian, Pinching, Alor Gajah, Durian Sandal, Kuala, Seletar, Kuching, Lukut, Selangor, Lumut, and Muar Batang Muar. They are present in small numbers on the uplands of Kenggong, Beludar, Kuching, Geling, Ulu Langat, and Jasin. Since July 11th, we have seen reported from either Selangor or Ulu Batang Muar (two swarms). All the fliers observed were sexually ripe, <sup>and</sup> ~~swarms~~ the swarms were full of individuals; <sup>though</sup> ~~and~~ ecclaytes, in general few.

B8-115

Bauder in his "Handlungsschrecken im südlichen Afrikantischen Kolonien" records that the following crops were observed by him to be eaten by *Lacrybius*: maize, oats, young barley, wheat and rye, fodder, grasses,

It will be admitted that similar are the tallang wastes of northern Malacca and the Netri Sembilan to the recent regions of the Philippines Islands; but they are fortunately less extensive.

It appears to me that in the last mentioned we have seen what would be a "permanent Peasant-Regiment", were it not that the number was artificial and artificially maintained; for as every one knows they will return to their home if fire is withheld from them. I am told that the efficient elements are about fifteen thousand and that they naturally go out when winter comes. It is also stated that there are many temporary fires, up to 1/4 mile in circumference, which are easily extinguished by a single blow of a hand fan. Accordingly, I addressed the following letter to the Resident in December 1861:

**Resident** — I suggest therefore that as far as possible protection from fire should be given the following winter, in order that the Peasants may remain longer in their villages, and that as far as can be done away off them there should be fixed out more observatories and times have arrived with the cessation of the rainy season for the Peasants to return to their homes. In the Province of Malacca the annual fires are now the first to break through in the course, mostly Keringia, sandalwood and Malabar sandalwood, which are easily found in their woods and which are suitable for great numbers of cattle; those and other animals ought to be avoided.

**Resident** — Direct methods of attacking the Peasants I consider **also** necessary, because although the damage done to crops hitherto has been very little, the swarms are increasing in number, and so long as this is the case we have to anticipate damage; and in consultation with the Resident, Malacca, these arrangements

the 1970s, the Soviet Union had become the world's largest producer of oil and gas, and its economy was growing rapidly. The Soviet Union had also developed a sophisticated space program, launching the first satellite, Sputnik, in 1957, and sending the first man into space, Yuri Gagarin, in 1961.

2. To understand the difficulty of controlling factors  
catching, it has been found that "catching, writing and record-  
destroying should be conducted by different men and that for  
the same job one man should be used.

In view of above, I anticipate that there will be  
no need to do so in 1976 in every case of the year.

I discussed other matters with the Resident, one of  
which was the use of sessions; and we decided that they  
should not be used in Hilo on December 2nd, because of the  
lack of sufficient staff; and I would further  
recommend firmly that the session in the usual manner  
be kept off until next month and the first half of January  
according to the schedule which I have given you. In this connection  
you may like the "Sessional Description" I have enclosed.

The one point I would add is that if a Resident  
is to be appointed he must be a Resident, and  
it is better to make the Inspector of Schools, from  
Tahoe, eligible to nominate for such post be considered, as  
such being put under him to bear the greatest responsibility  
he would be more likely to follow his work faithfully  
and faithfully discharge his functions as a Resident.

I hope the previous suggestion of the Resident  
will be accepted by the Board according to the Resident, and again,  
I would have the Board consider on May 1st, 1976, upon  
which to proceed upon the Hilo on December 2nd, and upon  
what date or dates it would be most effective.

In addition I should like to suggest that the  
matter of reffering the ballot question should be  
considered, as I think that by doing so we should gain  
more favorable results than by my suggestion.  
The only difference I had in mind for the two would be  
that the difficulty increased, for the administration of  
the ballot and the voting tasks would fall on the  
Resident and not on the ballot boards. But this I think  
no sign of trouble.

I regret that in reliance the order has been given  
to Leouri catchers to burn falling on a simple roasting of  
all kinds their subjects; and that the report, intitling a case  
in Leouri Berthier de l'Isle, 1849,

F. Y. L.

Received 15/7/24

Read.....

Department of Agriculture,  
Federated Malay States.

Kuala Lumpur, 14th, July, 1924.

Sir,

Thank you very much for your note of this morning. The more I look into this species of locust the less inclined am I to state definitely what species it belongs to. The following quotation is from one of the letters from the Philippines but I would not place too much trust in this:-

"After a close examination of the individuals I would say that the specimen of your P. danion seems to be identical with P. migratoroides of the Phils: which is one of our most destructive species".

My bulletin is only waiting for the arrival of the coloured plates from England which were sent home over six months ago!!

With specimens kept in captivity copulation took place 19 days after wings were obtained, but unfortunately no eggs were laid. I should say that about one month elapses or a little longer. I imagine the distance which the female will wander will depend largely on weather and food conditions but it could certainly travel a very considerable distance.

Yours sincerely,

H. C. Pratt.

Govt: Entomologist, F. M. S.

H. H. Buckland Esq:

Director of Botanic Garden,  
Singapore.

B64/6

## **MEMORANDUM.**

from

10

Date 10/10/10 A 100

Saw Mr. Mitchell

This is to record <sup>in writing</sup> the conclusions which  
regarding back work which I put before you for your  
consideration this morning. They are:-

1. that suppression of the banks is out of the  
question, but a measure of repression <sup>is desirable</sup> in excess  
of what has ~~been~~ <sup>now</sup> undertaken - an intelligence department  
~~for information~~  
it shall be employed in detecting  
the man or men who employed it  
the banks should not ~~lose~~ <sup>lose</sup> his information ~~and~~  
directly from

carrying out the work it is necessary that  
information of the ~~present~~<sup>present</sup> appearance of diseases  
~~to disappearance~~<sup>to disappearance</sup> of the ~~present~~<sup>present</sup> appearance of diseases  
should be collected systematically and that the  
places where they lay eggs should be ascertained as  
near as possible, the ~~as~~ hatching of the hoppers  
detected and ~~as~~ destruction then proceed with.

iii Malacca territory having relatively few waters,  
by means of perspectives & by <sup>though they form</sup> information from ploughers  
<sup>much information</sup> can be <sup>collected</sup> & it complete it does <sup>not</sup> work.

I hope that a Scout should be employed in the  
northern & southern U.S. who will visit



Copy to India to be forwarded  
to the Director of Agriculture  
No. 154/14

Department of Agriculture  
Federated Malay States

Kuala Lumpur QYsl May 1914

Sir,

I have the honour to inform you that during my recent visit of inspection of the locust work in the Negri Sembilan from May 1st-8th I had occasion to travel from Tampin to Batang Malaka by rail on my to "lu Jenchen and that for 7 miles along the line in Malacca from Keru to Tebeng and beyond there was almost a continuous swarm of locust in the 4th and 5th instar and just flying. This swarm will be a very large one and is quite likely to enter the Negri Sembilan. Moreover there is no reason to believe that it is the only swarm in that district.

2. One of the Malay Manders working in the coast District, near Penkalan Kempas a steady and reliable man informed me that he had been told by Malays that locusts occurred in large quantities in several parts of Malacca besides

U. S. GOVERNMENT

U. S. DEPARTMENT OF AGRICULTURE

Department of Agriculture

AGRICULTURAL ADVISORY BOARD

Federated Valley Estates

RECEIVED

RECEIVED DEPARTMENT OF AGRICULTURE WASHINGTON D. C.

5-

Minc. 2024/1913

From the Resident Malacca, 15.7.14

Sir,

I have the honour to forward herewith copy of a letter from the Secretaries of the Malacca Planters' Association on the subject of the Locust pest in Malacca and I do so because in the last paragraph of the letter they ask if His Excellency will receive a deputation from the Association on the subject.

2. Much of what is written in their letter is incorrect and part is incomprehensible. What actually took place was clearly set forth by my predecessor in his minute of 6th. June 1914 on N.S. 167/1914 and this was embodied in your letter 3492/1914 OF THE 29TH JUNE, which I duly communicated to the Association.

3. Since that letter the Director of the Botanical Gardens has been here to report and you have doubtless received his report. I acted at once on the conclusions which he arrived at and engaged a destroyer today. To day also I gave full instructions to the Deputy Collector of Land Revenue and the District Officers.

In conclusion I must emphasise what my predecessor has already stated that I think the danger from this pest has been considerably exaggerated. During the month that I have been here I have received a single complaint from a planter of actual damage done by the Locusts. I have heard one or two vague and general reports and that is all.

Signed W.G.Michell.

B.S.I./26

Enclosure to 5

Malacca Planters; Annex.

10th July, 1814

Sir,

We have the honour to acknowledge receipt of your letter of the 1st instant for which we thank you.

We are indeed surprised at the information which your letter contains and at the apparent indifference of the F.M.S. ~~MEMORI~~ Agricultural Department to the locust pest in Malacca, more especially after being informed that the proposal for co-operation first came from the P.M.S. Government.

It would appear from your letter that the Resident treated solely through individuals, and not through Government direct, and the only reason we can attribute the action of the Director of Agriculture, F.M.S., to it, is that he was not approached through the proper channels and therefore had no authority to send men to Malacca. This is borne out by a statement made by the Director in conversation with a member of this Committee a few days ago, when he stated, that he was quite ~~MEMORI~~ prepared to commence operations in Malacca as soon as he received instructions to do so.

This committee cannot agree that the experience with regard to the locusts constitutes any good argument for the formation of a separate Agricultural Department by the Government of the Colony, we are of opinion that had the sphere of the Agricultural Department, F.M.S., been extended to Malacca when first asked for it in 1808, the present state of affairs would never have existed. The formation of a separate agricultural Department for the Colony will incur the expenditure of a large sum

(4)

15.6.14

Sir,

In reply to your letter no. 7 in 12567/15 of the 28th May regarding the occurrence of locusts in Malacca territory, I am directed to inform you that as suggested in your previous letter of the 5th January an endeavour was made to cope with this pest by co-operation instead of by separate action.

2. A vote was authorised and the Resident communicated with the Ass't. Agricultural Inspector who met him on the 24th February. After discussion it was arranged that the services of the F.M.S. relay renders should be obtained from the Director of Agriculture. The Ass't. Inspector was to apply for them.

3. As nothing ~~more~~ further happened the Resident wrote to the Director of Agriculture on the 20th March. No answer was received. A reminder was sent. Ultimately on the 24th April, the Director replied that he could not spare the men asked for.

4. Since that time the Resident has been employing Malacca men and Malacca resources except for two traps lent to him by the Director of Agriculture, and he reports that though Malacca is not free from the pest which is fostered by the extensive tallang wastes in N.S., it is comparatively free except for occasional swarms that fly over the border from these wastes.

R.J.W.

To Under Secretary, F.M.S.

B8.1/72

# The Tebong Rubber and Tapioca Estate, Limited.

TELEGRAMS: STRATTON, TEBONG.  
TELEPHONE: 38, MALACCA.  
P. O.: TAMPIN, F. M. S.  
RLY. STATIONS: TEBONG: AND PRIVATE  
SIDING.

TEBONG,

17.7

1914

Received.....  
Answered.....

Please refer to

Dear Mr. Burkhill -

Thank you very much for copy of June Bulletin. I was under the impression that there was a bigger tree than this (no doubt dead some time ago) which produced 28 lbs of rubber in 28 tappings at 28 yrs old in 1909 (I think). I seem to remember those figures given either in one of Ridley's reports or in a 1910 Bulletin about March. This particular tree was, I think, separated from the Close-planted lot. I also seem to remember that its size was given at 10 ft. 70 ins. in 1909 or 1910.

The decrease in rate of growth is very marked in the case of No 2. I suppose this is due to close planting, & possibly the weakening effect of various sinkers, which would naturally cause a hill - or tree than a small one.

Another large swim offer has come from Gurney's way, & is now co-operating on my own, & in the rubber below the bridge. There is not yet

and hoppers simultaneous at Budit Patis.  
The flies are apparently the survivors of  
the swarm which produced the hoppers,  
as they are few in number & have been  
continuous on the ground since they  
first went there 10 or 11 years ago. Thus  
we have the overlap you mentioned to  
me her also.

Yours sincerely

C. W. Hallam

I enclose cheque for \$10-. Please send  
me Vol I of the "Bulletin" as issued  
(including back nos. except no. 7, the one  
you sent me) & 10<sup>0</sup> seedling

Please send <sup>avocado</sup> plants in wooden case  
addressed Tebong Siding, freight payable  
here. Any hints <sup>as to</sup> special treatment  
of the seedlings would be most welcome.

W.

[Have since found about 7 small swarms of hoppers  
flies being present in each case,  
 $\frac{1}{2}$ " long, in different fields of the Estate, evidently  
hatched in ravine edges.] L 21/11/14.

Land Office.

L. O. 790/14.

Malacca, 17 JULY, 1914.

Received/2-7-14

Answered.....

Sir,

I have the honour to enclose as requested a list showing whereabouts of locusts in Central District, Malacca, during the week 5th to 12th July.

The facts as shown in the list were submitted by the Penghulus of the various districts. Nine Penghulus have not furnished even nil returns, and this I take to mean that no locusts were observed in their mukims during this week. Should they report that locusts have been seen, I will send a further list reinforcing this one.

2. I myself observed a small flight of locusts at 3rd mile, Balek Panjang at about 2.30 p.m. on 7th July by road side.

3. I do not think any of the swarms observed were large ones. The word "plenty" in the list, coming from penghulus, is not a satisfactory indication of quantity, I am afraid.

I have the honour to be,

Sir,  
your Obedient Servant,  
*W. S. Jones*

Dy. Collector of Land Revenue.

J. H. Burkhill Esq.,

Director,

Botanical Gardens  
Singapore

B8-1/74

Return of all swarms of locusts  
in Central District  
from 5<sup>th</sup> to 12<sup>th</sup> of July 1914

Date	Time	The place at which the Locusts arrive	Quantity	Condition
1914 July 11 <sup>th</sup>	11 A.M.	Klebang Besar Pulan Gadong	not many	eating grass
— 7 <sup>th</sup> to 9 <sup>th</sup>	4 p.m. Morning	Batu Berendam Sungei Putat	plenty - do -	-- — -- —
10 <sup>th</sup> to 12 <sup>th</sup>	— —	- do -	decreasing	-- —
— 5 <sup>th</sup>	11 A.M.	Balei Panjang Tambak Malim	plenty	-- —
7 <sup>th</sup>	12 noon	Tambak	-- —	-- —
9 <sup>th</sup>	3 p.m.	Kampung Padang	decreasing	-- —
10 <sup>th</sup>	Morning	Tambak 2½ Mile	plenty	-- —
— 5 <sup>th</sup>	9 A.M.	Bachang Pasir Puteh	plenty	-- —
6 & 7 <sup>th</sup>	early morning	- do -	-- —	-- —
— 5 <sup>th</sup> to 7 <sup>th</sup>	early morning	Bukit Barn Ayer Keroh	plenty	settling to breed
8 <sup>th</sup> to 10 <sup>th</sup>	— —	Lerong Batu	-- —	eating grass
11 <sup>th</sup> to 12 <sup>th</sup>	— —	Bukit Bonang	-- —	-- —
— 6 <sup>th</sup>	9 A.M.	Bertam Ayer Ham Road	-- —	-- —
9 <sup>th</sup>	3 p.m.	- do -	-- —	flying
10 <sup>th</sup>	2 p.m.	Boundary of Balei Panjang	-- —	eating grass

MEMORANDUM.

From

Ag D.O.S.

To

Director of Gardens  
Singapore

July 17<sup>th</sup> 1914.

Received 20/7/14

Answered.....

Dear Mr Bunkill

I send herewith a report on the locusts in my district as correct as I can make it at the moment.

Of course the measurements of the flies is so sudden that no list can be correct for long. Next of the swarms I have seen

B8.1/76

I noted myself - all in fact except Batang  
Palaea Chohong & Umbai

I ~~can~~ have not been able yet to place the  
Swarm you mentioned at 15 miles Palaea  
Jasin Road.

Yours sincerely

J. J. Ratcliffe

The date below the account for each station represents the date on which the information was received or the conditions noted by personal inspection.

Received Aug 1914
Amended Oct 1914

Marlikau.

1. Round Sungai Rejang District
  2. Near 15 M
  3. Permatang Selut
- } all  
Breeding

9. VII. '14.

Sabah

In neighbourhood of Bukit Gading. Breeding.  
6. VII. '14.

Sungei Raub:

Near Parit Kerawas Beginning to breed.  
q. VIII. '14.

Kesang

In the Sawah at 18° 0' 26" Seeland Rd

14. VII. '14.

Chohong.

Hoppers at 25½ mile.

17. VII. '14.

Jasin

None

17. VII. '14.

Riau  
B8.1/77

Ayar Paus.

None

13. viii. 14.

Sarkam.

Swarm of flies just entered  
in the sawah at 11 $\frac{1}{2}$  M.

Not breeding

13. viii. 14.

Myalas

Very large numbers of both  
flies & hoppers.

Especially at 30 $\frac{1}{2}$  M. large  
quantities of hoppers.

Jus.

None

13. viii. 14.

Chabae.

Large numbers of hoppers at 23 $\frac{1}{2}$  M.

13. viii. 14.

Leung

Very large swarm of flies in sawah  
13 $\frac{1}{2}$  M. on other side of road.

In small numbers

Some breeding

13. viii. 14.

Chin Chin.

Large numbers of hoppers 21 M.

13. viii. 14.

Umba.

Two swarms of flies.  
(Not from Paria as to breed or not)

16. viii. 14.

Batang Palaka.

Swarm of hoppers 29½ m.

17.VII.16.

Bukit Siagel

None

17.VII.16.

Selangor

None

17.VII.16.

Waké  
Kuala Lumpur

Received 13-7-14

(Com. 87)

## Official Memorandum.

Answered.....

11th July,

1914.

From *It is of course a Pachytatus.*

To Dear Burkitt.

The Authorities in Sumatra have been consulted several times and specimens of the Locust forwarded to them. They state that this Locust has never been seen in Sumatra.

The Indian Museum identified the Locust as *Pachytatus danicus*. At the British Museum, at home, they said it was certainly not danicus. The Phillipine people said it was the same species as their Locust, and Russian authorities would not commit themselves!!! I am sending a whole series of specimens, dried, to England.

Yours Sincerely,

W. E. Pratt.

B8.1/78

Tebong.

2 swarms hoppers (very young - less than  $\frac{1}{2}$ " long) in Tebong, on Estate. Must have been born close at hand. The first flyers here only began to fly 10 weeks ago. Time of incubation ~~must~~ <sup>must</sup> have been less than 9 weeks. There have been a certain number of flyers <sup>continuously</sup> close by for the 10 weeks, so that the minimum of incubation period cannot be stated.

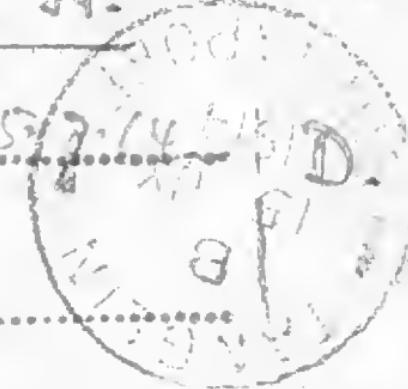
13/7/04. W. H. Allen.

POST CARD  
FEDERATED MALAY STATES  
THE ADDRESS ONLY TO BE WRITTEN ON THIS SIDE



I. H. Brookhill, Esq.

Received.....



Answered.....

Singapore

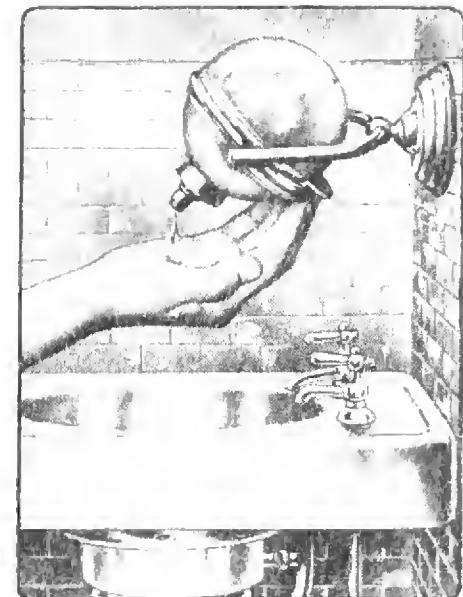
No Minutes should be written on this page. A separate half-sheet  
to be used if required.

Commence work on the 16th Jan. 13.1.14  
boundary under the direction of  
of the Asst of the Agricultural Inspector, Mr. Semblan and his party of 4 men.  
Working with some of this space can co-exist with the  
abberations.

This subordinate who  
might be a land bailiff 18.1.14 N.Y.W.  
records for the purpose sharing 19.1.14 S. C. Y.  
learned what to do by working R. on  
on the boundary world when Please note when  
the trees in the boundary for want  
have been destroyed more his 20.1.14 S.M.  
operations Southwards becoming  
independent of the Asst Agric. C.S.

Inspector, Mr. Semblan able Notes  
Completes his duties within 21.1.14  
the territory of Malacca. Treasurer  
The Asst Agricultural Inspector who shall be able  
to call him back to the boundary  
if it shall be urgently necessary.

18. J.F.B.



# West Disinfecting Company

MANUFACTURING CHEMISTS

## Disinfectants and Sanitary Appliances

### LIQUID SOAP AND DISPENSERS

EXECUTIVE OFFICES. 2 EAST 42<sup>nd</sup> ST.

BRANCHES IN PRINCIPAL CITIES

COPYRIGHT 1915 BY W.D.C.

Bureau of Agriculture,  
Government of the Straits Settlements,  
Singapore, Straits Settlements.

Gentlemen:-

We take the liberty to address you and direct your attention to the enclosed copy of a letter which we have just received from the Government of the Philippine Islands.

This letter deals with the question of the locust pests in that country and how efficiently our product, CORO-NOLEUM, rids the fields of both the locust and the hopper, when used in a 1% solution. A gallon of CORO-NOLEUM costs about \$1.00 gold, free deliver, to your country, provided no duty has to be paid. As this product is used one gallon of CORO-NOLEUM to 100 gallons of water, for the above mentioned purpose, the solution costs you just 1¢ per gallon or  $\frac{1}{2}$ ¢ per liter.

CORO-NOLEUM is used not only as an insecticide but it is primarily important as a high class disinfectant and heads the list of our special products. This product has been tested by the United States Government and we are supplying our Government and many others. In Bulletin No. 82 of the United States Public Health Service, copy of which we are sending you under separate cover, on Page 43, you will find that Chloro-Naphtholeum, now called CORO-NOLEUM, is 5 to 6 times more efficient bacteriologically than pure Carbolic Acid when tested against a vigorous culture of *Bacillus Typhosus*.

We therefore, feel that it would be to the advantage of your Government to introduce this product in hospitals, barracks and similar institutions where sanitary conditions are of uppermost importance.

We are also sending you a copy of our catalogue which will give you an idea of the general line of products which we manufacture, and should you desire any further information in regard to any of these products, we shall be glad to have you advise us.

Placing our services at your command, we are,

B2 181

Enc. 1 letter

Under Cover 1 bulletin

1 catalogue

Yours very respectfully,  
WEST DISINFECTION COMPANY

Vice-President

RECEIVED  
FEBRUARY 29, 1915

Received 29/2/15

Answered

Received May 3/15

THE GOVERNMENT OF THE PHILIPPINE ISLANDS  
DEPARTMENT OF PUBLIC INSTRUCTION  
BUREAU OF AGRICULTURE

Manila, December 10, 1914.

Sir:

I have the honor to acknowledge receipt of samples of your insecticides and germicides.

As previously stated, our office is desirous of obtaining a compound that may be utilized as a contact insecticide against locust in the nymph (hopper) stage. To this end, I have tried out in a small way the samples of Coro-Noleum. While the magnitude of this experiment makes it impossible to state definitely its value under actual field conditions, such as obtain in the uninhabited lands, yet I believe that, from what I have seen, we can utilize it successfully in destroying this pest. As you are aware, the test made was conducted upon the fifth instar hoppers almost ready to take wing, which are, of course, more resistant than the younger ones to an insecticide. In view of the results obtained in this trial, I have placed a requisition for one hundred gallons of Coro-Noleum, which amount should furnish enough material to determine the exact value of the same as locusticide. Should opportunity offer, I will also test it out on such other pests as are brought to the attention of this office. Upon completion of our experiments, should the same be desired by you, I will be pleased to furnish you with a copy of the results obtained.

Very respectfully,

(SD.) D. B. Mackie

Entomologist.

Mr. Julius Norden,

The West Disinfecting Co.,

100-182 New York, N. Y., U. S. A.

Received 3.3.15

10 AM

MEMORANDUM.

From

ANSWER

To

I. H. Buckill F.S. M.A. F.L.S.

Director of Gardens S.S.

March 2nd. 1915.

Botanic Gardens.  
Singapore.

Dear Mr. Buckill,

I last wrote you on February 19<sup>th</sup>.

Hoppers, small black objects, have appeared to day at three places, all of which places are in the locality of Jassin.

During the whole of February there were no hoppers in the whole of the Malacca Colony.

I shall write again when I have further information to report.

Yours sincerely  
P. C. Bowley - Brown.

Botanic Gardens,

Singapore,

12th. January, 1875

Dear Mr. Michell,

You will remember that I advocated re-afforestation as a means of dealing with the savannas, under the idea that savannas only attain to the savanna form condition in wide grass lands.

Recently in the Philippines Islands, the small tree - *Jambolan* - *Prunus* - has been recommended for sowing in fallow lands, there called *coco-nos*, as a means of getting a cover of trees on fine land.

I am sending a bag of seed of this tree to Bowley Brown. And I should like it to be sown broadcast without any preparation of the ground in a stretch of pure fallow where the result can be observed. I wish to ask you if you think a lot of such fallow land, say  $\frac{1}{20}$  acre, considerably too remote, which is unlikely to be demanded for cultivation for a few years, where the result of such an expensive experiment as this can be watched. It is possible that there may be such land at Ayer Keroh where I have never been.

Sincerely yours,

Signed (J. Henry Burkitt)

Dear Bowley Brown,

The bag of seed herewith sent contains approximately 8700 seeds. Would you please see Mr. Michell with regard to the above letter. The fallow should be kept off as far as possible, 88.1/84

Sincerely yours,

J. H. B.

From

MEMORANDUM.

To

Received 25.2.15  
10 AM

Answered.....

I. H. Bushill Esq., M.A. F.L.S.

Director of Gardens, S.S.

Botanic Gardens,  
Singapore.

February 18th 1915.

Dear Mr. Bushill,

So far this month no Hoppers have appeared. There are a few swarms of Flies. The swarm of Flies is young and I think the Flies constituting it must have been bred in some open space surrounded by jungle.

I hope the "Insects" — as the papers call it — has not inconvenienced you directly or your staff. Yours sincerely  
P. C. Bowles-Brown.

B8.1/85